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ABSTRACT

Recent developments in family stress and coping research and a review of data and observations of families in a war-induced crisis situation led to an investigation of the relationship between a stressor and family outcomes. The study, based on the Double ABCX Model in which A (the stressor event) interacts with B (the family's crisis-meeting resources) which interacts with C (the family's interpretation of the event) which produces X (the crisis), was designed to study variables that discriminate between balanced and imbalanced family units faced with the chronic strain of raising a child with cerebral palsy. The 217 families responded to questionnaires about family life changes and parental coping. The balanced group revealed moderate scores on cohesion and adaptability subscales. This group was able to change their power structure, role relationships, and rules in response to stress. The imbalanced families were characterized by rigidity and chaos. The data partially support a multivariate and interactive approach to the study of differences between balanced and imbalanced families. (JAC)

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FAMILY STRESS AND ADAPTATION TO CRISES:

A Double ABCX Model of Family Behavior*

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ABSTRACT

A disturbance and in some cases, an imbalance in family functioning often emerges in response to stressors from within and outside of the family unit. A family crisis is viewed as an imbalance in one or two critical dimensions of family functioning, namely (a) member-to-family and/or (b) family-to-community relationships. Family efforts at adapting to crises is conceptualized in terms of member and system behavioral efforts to achieve a "balance" simultaneously at these two levels of functioning. This theoretical framework, based on observations from a recent longitudinal study of families under stress, involves an expansion of Hill's ABCX Model. This framework attempts to bridge various physical, psychological and sociological models of stress, coping and adaptation. Data on family behavior in response to the chronic stresses of raising a handicapped child are presented as an initial test of the efficacy of this framework and line of theory building.

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FAMILY STRESS AND ADAPTATION TO CRISES:
A Double ABCX Model of Family Behavior*

Hamilton I. McCubbin and Joan M. Patterson
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In the recent Decade Review of Family Stress and Coping (McCubbin, Joy, Cauble, Comeau, Patterson & Needle, 1980), we noted that, in general, family stress studies have produced inconclusive and often contradictory results. This wide variance in findings appears to be due to at least three factors: (a) methodological weaknesses in the study designs and in the definitions and measurement of the constructs studied, (b) the use of simplistic conceptualizations in which family outcomes are related in direct and singular fashion to specific social and intra-familial stressors, and (c) the paucity of concepts and propositions which help to describe the dynamic nature of family behavior in response to crisis and which can be used to explain the variance in family post-crisis outcomes.

The evidence to date (see expanded version of the Decade Review, McCubbin, Joy, Patterson, Cauble, Comeau & Needle, 1981) strongly suggests that family outcomes following the impact of stressor and a crisis are the by-product of multiple factors in interaction with each other.

In two recent papers (McCubbin, Olson & Patterson, in press, McCubbin & Patterson, in press), we suggest that a more productive research approach in the study of family adaptation to crisis would be to employ a multivariate model where psychological, intra-familial, and social variables identified from prior family stress research would be addressed simultaneously. By so doing, the individual and collective contributions of these variables could be ascertained. The central question for theory building and research in family crisis investigations then becomes how much and what kinds of stressors, mediated by what family coping responses and by what personal, family, and social resources discriminate between adaptive and maladaptive family units.

Conceptual Framework for Past Stress Research: ABCX Model

Beginning with the early work of Hill (1949), who studied the stressors of war separation and reunion, family scholars have attempted to identify which families, under what conditions, using what resources and coping behaviors are able to make positive adaptations to stressful situations. The earliest conceptual foundation for research addressing these questions has been the ABCX family crisis model advanced by Reuben Hill (1949):

A (the stressor event)--interacting with B (the family's crisis meeting resources)--interacting with C (the definition the family makes of the event)--produce X (the crisis).

Stressor, Hardships, Stress, and Distress

In an effort to render clarity to this model and to establish a link to physiological (Selye, 1976) and psychological (Mikhail, 1981; Lazarus, 1966) concepts of stress, we define a stressor as a life event or occurrence in or impacting upon the family unit which produces change in the family social system. This change may be in various areas of family life such as its boundaries, goals, patterns of interaction, roles, or values. Such "systemic" change is of a magnitude greater than day-to-day "routine" family change. Family hardships are defined as those demands on the family unit specifically associated with the stressor event. An example of hardships would be the family's need to obtain more money or to rearrange family work and recreation plans to accommodate the increased medical expenses and the demand for home care of a handicapped member.

Family stress (as distinct from stressor) is defined as a state which arises from an actual or perceived demand-capability imbalance in the family's functioning and which is characterized by a non-specific demand for adaptive behavior. In other words, stress is not stereotypic, but rather varies depending on the nature of the situation, the characteristics of the family unit, and the psychological and physical well-being of its members. Concomitantly, family distress is defined as an unpleasant or dysfunctional state which arises from an actual or perceived demand-capability imbalance in the family's functioning and which is also characterized by a non-specific demand for adaptive behavior. In other words, stress becomes distress when it is subjectively perceived as unpleasant by the family.

Crisis Meeting Resources

The B factor, the family's crisis meeting resources, has been described as the family's ability to prevent an event of change in the family social system from creating some crisis or disruptiveness in the system (Burr, 1973). Angell (1936), one of early theorists attempting to describe more specifically what constituted family resources, emphasized the value of family integration, that is, the bonds of coherence and unity running through family life, of which common interests, affection, and a sense of economic interdependence are perhaps the most prominent; and family adaptability, that is, the family's capacity to meet obstacles and shift courses as a family. These dimensions have been emphasized repeatedly by other scholars as two central resources to describe family functioning (Olson, Sprenkle & Russell, 1979). Cavan and Ranck (1938) and Koos (1946) identified additional resources of family agreement in its role structure, subordination of personal ambitions to family goals, satisfactions within the family obtained because it is successfully meeting the physical and emotional needs of its members, and goals toward which the family is moving collectively. Hill (1958) summarized the B factor as "adequacy-inadequacy of family organization."

Family Definition of the Event

The C factor in the ABCX Model is the definition the family makes of

the seriousness of the experienced stressor. There are objective cultural definitions of the seriousness of life events which represent the collective judgment of the social community, but the "C" factor is the family's subjective perception of the stressor and its hardships and how they are affected by them. This subjective meaning reflects the family's values and their previous experience in dealing with change and meeting crisis. A family's outlook can vary from seeing life changes as challenges to be met to interpreting a stressor as uncontrollable and a prelude to the family's demise.

Crisis

These factors taken together: (a) the stressor event, hardships, and stress, (b) the family's resources for dealing with change, and (c) the definition the family makes of this situation, all influence the family's invulnerability, that is, their ability to prevent the event of change from creating a crisis (Hansen, 1965). Crisis (the X factor) has been conceptualized as a continuous variable denoting the amount of disruptiveness, disorganization, or incapacitatedness in the family social system (Burr, 1973). As distinct from stress, which is a demand-capability imbalance, crisis is characterized by a prolonged inability to restore this imbalance. In other words, stress may never reach crisis proportions if the family is able to use existing resources and define the situation so as to restore the imbalance relatively quickly.

Limitations of the ABCX Model

The original ABCX Model advanced by Hill (1958, 1949) focuses primarily on pre-crisis variables which account for differences in family vulnerability to a stressor event and whether and to what degree the outcome is a crisis for the family.

Building on this model, Burr (1973) reviewed the research and attempted to revise and update the list of independent variables (primarily Hill's B factor of resources) that have been related to family vulnerability. In addition, family stress research has focused on variables related to how well families are able to "recover" from a crisis situation. Drawing from Hansen's (1965) work, Burr (1973) gave prominence to the concept of regenerative power by identifying additional variables which help explain this "variation in the ability of the family to recover from a crisis." Despite the salience of the ABCX Model and variables related to vulnerability and regenerative power for describing family behavior in response to stress at a single point in time, it became apparent from our longitudinal observations of family behavior in response to war-induced separations that a more dynamic model was needed to explain the efforts families make "over time" to adapt to crises.

Longitudinal Observations of Families faced with War-Induced Crisis: Emerging Concepts for the Double ABCX model

The Hill ABCX framework was used to guide the longitudinal study of families who had a husband/father held captive or unaccounted for in the Vietnam War which was conducted by the family studies branch of the Naval Health Research Center. Observations of the 216 families in crises

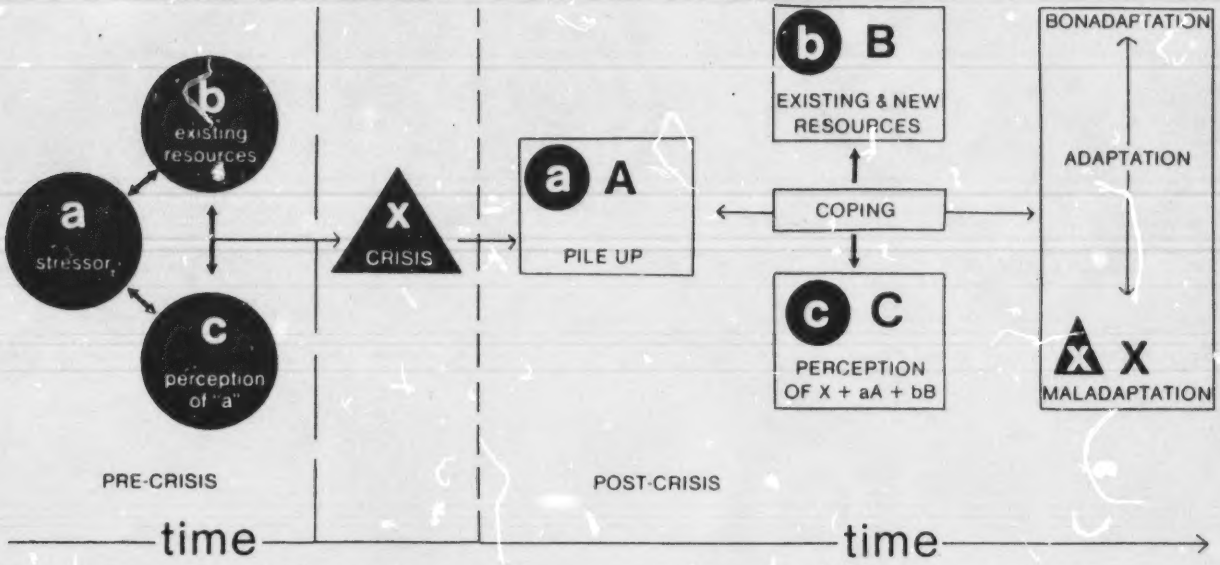
involved in this study (McCubbin, Olson, & Patterson, in press; McCubbin & Patterson, in press) suggested that there are at least four additional factors which appeared to influence the course of family adaptation over time: (a) the pile-up of additional stressors, (b) family efforts to activate or acquire new resources, (c) modifications by the family of their perception of the total crisis situation, and (d) the role of family coping strategies in bringing about immediate adjustments and eventual adaptation.

In this paper, we propose a Double ABCX Model (see Figure 1) which uses Hill's original ABCX Model as its foundation and adds these post-crisis variables in an effort to describe: (a) the additional life stressors and strains which may make family adaptation more difficult to achieve, (b) the critical psychological, intra-familial, and social factors families use in managing crisis situations, (c) the processes families engage in to achieve satisfactory resolution, and (d) the outcome of these family efforts. The sections which follow set forth the longitudinal observations of these 216 families as they pertain to each factor of the Double ABCX Model, followed by a more generalized explanation of each factor.

Figure 1. The Double ABCX Model (See Next Page)

Pile-up: aA Factor

Observations from longitudinal study. When a family was called upon to adapt to the absence of a husband/father listed as missing or a prisoner of war, many family changes and hardships evolved naturally from this situation. The extended length of absence for these men (the majority were absent 3-6 years) produced an increasing strain on family relationships as


b
existing resources
a
stressor
c
perception of "a"
PRE-CRISIS
X
CRISIS
a A
PILE UP
b B
EXISTING & NEW RESOURCES
COPING
c C
PERCEPTION OF X + aA + bB
BONADAPTATION
ADAPTATION
X
X
MALADAPTATION
POST-CRISIS
time
time

a A
b B
c C
X

FIGURE 1

the period of absence increased. Modifications in family roles with accompanying anxieties, frustrations, conflicts, and feelings of insecurity were observed for the wives now taxed with both the traditional and inherited responsibilities of the dual mother-father role (McCubbin, Hunter, & Metres, 1974). Solo decision making, disciplining of children, handling family finances, and managing children's health problems were cited as hardships. Some child health problems appeared to be a direct consequence of father absence such as emotional difficulties and conflicts with peers. Many wives experienced serious emotional symptoms as a result of their spouse's prolonged absence and the uncertainty of his return. These hardships which emerged from the stressor of war-induced separation were not readily resolved and their persistence led to their becoming additional stressors or sources of strain in and of themselves.

In addition, these families had to simultaneously adjust to other life events and changes which are normative occurrences in families over time and which happened independent of the stressor of separation. Childhood accidents and illnesses, deaths and births of extended family members, school transitions, adolescent rebellious behavior, and launching young adults are examples of normative stressors experienced by wives and children which were more difficult to manage without the support of a husband/father.

The observations from this longitudinal study revealed that the coping efforts these families used to adjust to the separation produced additional stressors. For example, in order for family life to continue in some routine manner, wives, assuming a dual mother-father role and functioning in the role as head of the household, appeared to become more independent and self-confident. This was especially true when they "closed ranks" (Hill, 1949) and developed a style of life for a family unit without a husband/father. Interestingly enough, social changes which emerged during the same period as the Vietnam War, i.e., the women's liberation movement, rendered legitimacy to the wives' efforts to be self-sufficient and independent. This style of coping, which changed a mother's roles and strengthened her authority, was often challenged and questioned by other members of the kin network, particularly in-laws who were concerned about the stability of the family unit and the possibility of a divorce. Thus, wives often had to cope with disapproval from other members of the family for the way in which they were handling the separation and this was an additional stressor.

Not only did specific coping behaviors sometimes become stressors, but two sources of ambiguity for the wives experiencing this separation from their husbands created additional stressors.

Inherent in the event of having a husband/father held captive or missing in action is ambiguity as to whether he will return. Families varied in terms of whether they believed the husband/father would or would not return. On the basis of systems theory and the symbolic interactionist perspective, Boss (1977) has suggested that <u>boundary ambiguity</u> within the family system becomes a major stressor in the case of families of the missing: "A system needs to be sure of its components, that is, who is

inside system boundaries physically and psychologically, and who is outside, physically and psychologically...a major consequence of an ambiguous system, that is, a system that is not sure of its components, is that systemic communication, feedback and subsequent adjustment over time are curtailed. (p.142)". This ambiguity also influenced family roles, especially for wives as they struggled with whether and to what degree to take over their husband's role.

Despite the boundary ambiguity inherent in this stressor, our in-depth interviews (McCubbin, Hunter, & Metres, 1974) and particularly the legal case studies (Nelson, 1974) revealed that families did make a concerted effort to render clarity to the situation, but in the absence of legitimate paths and procedures for resolution, families faced major roadblocks. Social ambiguity, that is the absence of appropriate norms and procedures for managing this stressful situation, created an additional stressor on family life.

As Hansen and Hill (1964) and Mechanic (1974) have pointed out, the fit between the family and the community may well be the major determinant of successful adaptation to stress. The family's ability to manage stress may depend on the efficacy and/or adequacy of the solutions the culture, community, or the organization provide. However, these community solutions may lag far behind the times and offer little to families struggling to manage a difficult situation. Social ambiguity emerges when society's blueprints for family behavior under stress are being challenged or are inappropriate and problem-solving guidelines for family post-crisis behavior are not adequate.

Not only were society's perceptions of this stressor (the war) ambiguous, but the resources (Hill's B factor) available to these families were also ambiguous. For example, powers of attorney, executed by many servicemen to enable their wives to sell jointly held property, expired during the prolonged absence. Families were then left without legal support for their transactions and without guidelines as to how legal power could be achieved.

Wives who wished to move ahead and create a new life by remarrying faced the risk of a bigamy conviction since declaration of death had not been confirmed. The social stigma of divorce, coupled with the potential loss of military privileges and the possibility of forfeiture of benefits under a husband's estate, made this option less desirable. While a wife may actively have sought a death determination, parents of the husband strongly resisted this alternative, viewing such a course of action as abandonment of their son and possible loss of grandchildren (McCubbin, Hunter, & Metres, 1974; Nelson, 1974). Further, while such an approach would facilitate remarriage and distribution of the husband's estate and insurance settlement, it would have no impact on the military's release of the serviceman's accrued pay and allowances. This fund, which often represented the single most important asset in the estate, could only be released by the Service Secretaries' declaration of death. Thus, many wives were pushed to await an official clarification of this ambiguous situation to realize the full benefits of their husband's estate.

In examining the data from this longitudinal study, these families were faced with a pile-up of stressors resulting from: (a) the hardships of the initial stressor event which increased and persisted over time; (b) the consequences of family efforts to cope with the separation; (c) additional life changes and events in the family, and (d) ambiguity--both within the family regarding father's return and within society regarding norms and prescriptions for family behavior in this situation.

Generalizations to the Double ABCX Model. Because family crises evolve and are resolved over a period of time, families seldom are dealing with a single stressor, but rather, our studies suggest they experience a pile-up of stressors and strains (or demands or changes), particularly in the aftermath of a major stressor, such as a death, a major role change for one member, or a natural disaster. This pile-up is referred to as the "aA" factor in the Double ABCX Model (see Figure 1). These demands or changes may emerge from (a) individual family members, (b) the family system, and/or (c) the community of which family members and the family unit are a part.

The demands or needs of individuals, families, and society are not static but change over time. For example, normative growth and development of individuals, (e.g., increasing need for independence), life cycle changes of families (e.g., beginning parenthood, launching children), and societal changes (e.g., changing roles of women, declining birth rate) are demands or needs which call for change, and hence are stressor events for the family.

There appear to be at least five broad types of stressors and strains contributing to a pile-up in the family system in a crisis situation. The first is the initial stressor event (the "a" of the aA factor), with its inherent hardships, which played a part in moving the family into a crisis state.

Many of these hardships of the stressor persist because, by their nature, they are unresolvable (e.g., ongoing home care of a chronically ill member) or because the family is unable or unwilling to resolve it (e.g., role overload of dual employed parents or single parents). Thus these persistent hardships become chronic strains--the second aspect of pile-up. It is important to note that these persistent strains are not usually discrete events which can be identified as occurring at a specific point in time. Rather, they usually emerge more insidiously in the family, often as a consequence of some other event. Pile-up as we are defining it, includes both stressors and strains.

The third type of stressors and strains contributing to pile-up is normative family life changes and events which occur concomitantly, but appear to be independent of the initial stressor and hardships. Normative developmental changes and transitions such as parenthood or midlife change are examples of this added source of family stress which may also place demands on the family unit which is already struggling with a specific stressor and its hardships.

The fourth source of pile-up includes stressors and strains which

emerge from specific coping behaviors the family may use in an effort to cope with the crisis situation. For example, taking on a second job to cope with inflation or spouse employment to cope with increased medical expenses are likely to introduce added changes to the already "out of balance" family unit.

The fifth source of stressors and strains, also related to coping, is ambiguity. A certain amount of ambiguity is inherent in every stressor since change produces uncertainty about the future. However as our observations led us to conclude, boundary ambiguity (as in the case of the missing or prisoners of war) is an additional strain on the family system. The concept of boundary ambiguity has also been applied to describe the strains associated with normative life transitions (Boss, 1980) such as the young adult college student who lives at home. Is this person perceived as in or out of the family unit? Additionally, given the expectation that society will offer guidelines or blueprints for families coping with crises, it is probable that families will face the added strain of social ambiguity in those situations where those much needed social prescriptions for crisis resolution are unclear or absent. For example, many families faced with the crisis of a member held hostage (e.g., Iran 1979-81) experienced the added strain of contradictory or unclear messages from the community (e.g., government, military, media, other families and friends) about what courses to follow which would be helpful to the family and lead to resolution of the crisis.

While a pile-up of stressors and strains may be characteristic of most families at any point in time, it emerges as a significant factor in understanding family behavior post-crisis. Since the system is experiencing an imbalance due to inadequate capabilities to meet the multiple demands, the course of adaptation will be influenced by the number and nature of demands and how these are met or ignored.

Resources: bB Factor

Observations from the longitudinal study. The literature is replete with observations and concepts around extant psychological (Lazarus, 1966) and community (Caplan & Killilea, 1976) resources which are used to mitigate the impact of a stressor and facilitate adaptation to crises. Additionally, the family literature (Burr, 1973) has identified numerous family system resources, of which cohesion and adaptability are paramount, which influence a family's regenerative power. From our observations of the families in this war-induced crisis, it was apparent that they drew upon (a) psychological resources such as sublimation, denial, and projection; (b) community resources like friendships, religious involvement, and mental health professionals; as well as (c) such commonly identified family resources as togetherness, role flexibility, shared values and goals, and expressiveness.

These families were also called upon to expand upon their existing resources in order to manage this crisis situation. Specifically, wives availed themselves of educational opportunities to enhance their earning potential in anticipation of their spouse not returning. These opportunities for personal development also served to enhance their self

esteem and self sufficiency. Concomitantly, the family unit made internal changes to accommodate the father's absence. They reallocated roles and responsibilities (e.g., oldest child member took a job to increase family income), involved extended kin in meeting family needs, relocated the family in a new community to gain a fresh start, and some remarried. Additionally, the family sought, and in some cases, created new community resources tailored to meet their needs. Wives joined the National League of Families, community-based counseling groups, financial investment clubs, and groups affiliated with churches. These groups offered various benefits such as encouragement, concrete guidance empathic understanding, as well as a sense of membership.

Generalizations to the Double ABCX Model. Resources are part of the family's capabilities for meeting demands and needs and include psychological, social, interpersonal, and material characteristics of (a) individual members, (b) of the family unit, and (c) of the community. Individual resources might include, for example, the ability to manage the home, the ability to function independently, earning potential, or any of a variety of cognitive skills. Family resources could include integration, cohesiveness, flexibility, organization, shared values, expressiveness, and commitment to positive health behaviors. Finally, community based resources might include social support networks, medical and psychological counseling services, and social policies which enhance family functioning and protect families from harm or breakdown.

When viewed over time and in response to a crisis situation, these resources appear to be of two general types. The first are those existing resources already availale to the family which minimize the impact of the initial stressor and reduce the probability of the family entering into crisis, i.e., making the family invulnerable (the pre-crisis "b" factor). The second type are those new resources (individual, family, and community) strengthened or developed in response to the new or additional demands emerging out of the crisis situation or as a result of pile-up. These newly activated resources are the second "B" of the bB factor in the Double ABCX Model.

Family Perception: cC Factor

Observations from the longitudinal study. The findings from this study suggest that religion and/or religious beliefs enabled these families to ascribe an acceptable meaning to their situation. This, in turn, contributed to the maintenance of family unity, the enhancement of member self-esteem, and also served as a source of norms and guidelines for family behavior in this ambiguous situation (McCubbin,Hunter, & Metres, 1974).

While families struggled, they also appeared to reach a level of adaptive or functional stability, an outcome which could be attributed in part to wives' redefining the situation. For example, Boss' (1977) data revealed that not all of the consequences of boundary ambiguity were negative. It was positively associated with the interviewer's assessment of child adjustment and the family dimensions of achievement orientation, expressiveness, and organization. Wives appeared to define the ambiguity of father's absence differently for instrumental versus expressive needs:

"Although it is financially functional for her (wives) to keep the father present in the instrumental role which offers satisfying financial security, it is at the same time functional for her to psychologically expel him from the emotional support role" (Boss, 1977,p.147). Wives appeared to redefine the situation by endowing father's role with some value and meaning (i.e., as financial provider) and at the same time legitimate their effort to establish a new life for themselves (i.e., by developing new ways to meet expressive needs).

Generalizations to the Double ABCX Model. In the Double ABCX Model, the "cC" factor is family perception. Again, there are two forms of perception, depending on whether we are referring to the family's response before or after the crisis. The first "c" factor is the family's perception of the most significant stressor event--the change or demand believed to have caused an imbalance (i.e., the crisis) in the family system. The second "C" factor is the family's perception of its total "crisis situation" which includes the added stressors and strains, old and new resources, and estimates of what needs to be done to bring the family back into balance.

Unlike the family's initial perception (c factor) of the situation which focused on the stressor and related hardships, the family's post-crisis perspective is oriented towards a redefining of the crisis situation. When this effort is constructive, the family attempts to (a) clarify the issues, hardships and tasks so as to render them more manageable; (b) decrease the intensity of the emotional burdens associated with the crisis situation; and (c) encourage the family unit to carry on with its fundamental tasks of promoting member social and emotional development. This process of redefining the situation involves an effort to integrate individual perceptions which may be discrepant (e.g.,the care of a handicapped member may be perceived as a challenge and responsibility by some members of the family and as a burden and major problem by others). Generally speaking, family efforts to redefine a situation as a "challenge," as an "opportunity for growth" or to endow the crisis with meaning such as "believing it is the Lord's will" appear to play a useful role in facilitating family coping and eventually adaptation. Viewed in this way, the family's "perception" or the cC factor becomes a critical component of family coping.

Coping: Interaction of Resources, Perceptions, and Behavior

Observations from the longitudinal study. Although family resources and perceptions have been studied independently and offer investigators a gauge of family capabilities used to meet demands, these same observations suggest that we could improve upon our understanding of family adaptation to crises by looking at these two variables simultaneously along with what families do to cope with the situation. Coping appears to be a multifaceted process wherein resources, perception, and behavioral responses interact as families try to achieve a balance in family functioning.

The wives in this study engaged in behaviors to maintain family integration and stability (resources) by doing more things with the children, assuming a stronger leadership role in the family, and

encouraging the expression of feelings among family members. Perceptually, the wives coped with the ambiguity of their spouses' return by considering him "outside" family boundaries to justify behaviors such as dating to fulfill emotional needs while at the same time considering him "inside" family boundaries in order to access his military wages to meet the financial needs of the family.

One of the most beneficial coping strategies to these families emerged from wives' efforts to seek a resolution to the many hardships and strains experienced as a result of the separation. The families banned together and formed the National League of Families in an effort to establish a competing form of social organization and, through social action, change existing military policies and decisions which were seen as inadequate or as threatening to the family unit. Increasingly, it became clear to these families that coping with these major hardships required organized cooperative efforts that transcended those of any individual family.

These collective group efforts also appeared to provide wives and family members with an important resource called social support. Cobb (1976) defines social support as the exchange of information which provides families with (a) emotional support, leading them to believe they are cared for and appreciated; (b) esteem support, leading them to believe they are valued; and (c) network support, leading them to believe they have a role to play in the organization and that there is a mutual obligation. Family members pointed out that the National League of Families offered them a social network through which they could obtain understanding, empathy, encouragement, problem-solving information, material assistance, and a sense of belonging (Powers, 1974).

What also became apparent from our observations of these families is that their coping efforts were directed at multiple stressors and strains (the pile-up) simultaneously. In other words, coping was not stressor specific. Coping involved efforts to manage various dimensions of family life simultaneously such as: (a) the maintenance of family bonds of coherence and unity, (b) the maintenance of satisfactory internal conditions for communication, (c) the promotion and enhancement of member independence and self-esteem, (d) the maintenance of family flexibility and autonomy, and (e) the development and maintenance of social supports and other resources in the community (McCubbin, Dahl, Lester, Benson, & Robertson, 1976; McCubbin, 1979).

As already noted, coping efforts focused on one area of family life may precipitate additional strains. Thus these families were continually challenged to bring the totality of interactions and transactions into balance simultaneously.

Generalizations to the Double ABCX Model. In the Double ABCX Model, coping becomes a bridging concept linking resources and perception with the family's behavioral responses to the pile-up. Coping has both cognitive and behavioral components which interact with each other in the face of demands. Family coping efforts are directed at eliminating stressors and strains, managing the hardships of the situation, resolving intra-family conflicts and tensions, as well as acquiring and developing social, psychological, and material resources needed to facilitate family

adaptation. This perspective of family coping underscores the importance of family behavior efforts to strengthen, develop and draw resources from within (e.g., leadership skills, role sharing, income, bonds of family unity, adaptability) and from the community (e.g., meaningful friendships, support groups, professional assistance) which can provide families the much needed information for problem solving and confirmation that they are understood, accepted, valued, and appreciated.

Family Adaptation: xX Factor

Hill's X factor (1958), the amount of "crisis" in the family system, generally has been adopted as the major outcome variable describing disruptions in family routines in response to a stressor. Burr (1973) conceived of "crisis" as a continuous variable, denoting variation in the "amount of disruptiveness, incapacitatedness, or disorganization of the family." Given this definition, it might be concluded that the purpose of post-crisis adjustment or the goal of "regenerative power" (Hansen, 1965) is primarily to reduce or eliminate the disruptiveness in the family system and restore homeostasis. It might be argued, however, that family disruptions potentially help to maintain family relationships and even stimulate desirable changes in family life. Hansen and Johnson (1979) called attention to the restrictive focus of "crisis" and noted that "families are often observed 'accepting' disruptions of habit and tradition not so much as unwelcome problems, but more as opportunities to renegotiate their relationships" (p.524) Systems theorists (von Bertalanffy, 1968; Hill, 1971) point out that it is characteristic of living systems to evolve toward greater complexity, and consequently, families may actively initiate changes to facilitate such growth. It is questionable then, whether "reduction of crisis" alone is an adequate index of a family's post-crisis adjustment.

Observations reviewed in this chapter suggest that family adaptation would be a useful concept for describing the outcome of family post-crisis adjustment. There are three elements to be considered in family adaptation: (a) the individual family member, (b) the family system, and (c) the community of which family members and the family unit are a part. Each of these elements is characterized by both demands and capabilities. Family adaptation is achieved through reciprocal relationships where the demand of one of these units are met by the capabilities at another so as to achieve a "balance" simultaneously at two primary levels of interaction.

At the first level, a balance is sought between individual family members and the family system (e.g., family encouraging and supporting adolescent needs for independence and adolescent family members completing family maintenance tasks or participating in shared family activities). Following the Double ABCX Model, family stress may emerge where there is a demand-capability imbalance at this level of family functioning. Specifically, the demands an individual member may place on the family may exceed the family's capability of meeting these demands, thus resulting in an imbalance. For example, the stressor of a member entering adolescence may precipitate an imbalance by virtue of the family's demand for member adherence to rigid rules and their inability to alter expectations which would allow for the independence an adolescent needs for personal development. The family is therefore called upon to reconcile this matter

and work to achieve a new "balance" between the individual member and the family unit.

At the second level, a balance is sought between the family unit and the community of which this family is a part (e.g., family support of parental involvement in work and community activities and the work community demand for extensive time and personal investment). It has frequently been observed that two social institutions, the family and the work community, compete for the involvement and commitment of family members which often results in stress--a demand-capability imbalance at this second level of family functioning. For example, the stressor of a wife-mother entering or returning to work may precipitate an imbalance if the family demands she make a priority commitment to family life and the children. Additionally, the family may be reluctant to modify its rules and behaviors (e.g., towards shared tasks, shared responsibilities) to permit the transitioning parent to invest in work-for-pay without the added burden of emotional guilt and the felt need to fulfill home and work responsibilities with equal competence. The family is called upon to re-establish and achieve a balance between family and work-community demands and capabilities.

Therefore, family adaptation becomes the central concept in the Double ABCX Model used to describe the outcome of family efforts to achieve a new level of balance in family functioning which was upset by a family crisis. In crisis situations the family unit struggles to achieve a balance at both the individual-family and the family-community levels of family functioning. Since the family is a social system and a change in one level affects the other, family efforts at adaptation always involve an attentiveness and responsiveness to both levels of family functioning simultaneously.

The concept of family adaptation is used to describe a continuum of outcomes which reflect family efforts to achieve a balance in functioning at the member-to-family and family-to-community levels. The positive end of the continuum of family adaptation, called bonadaptation, is characterized by a balance at both levels of functioning which results in (a) the maintenance or strengthening of family integrity; (b) the continued promotion of both member development and family unit development; and (c) the maintenance of family independence and its sense of control over environmental influence. Family maldaptation, at the negative end of the continuum, is an outcome characterized by a continued imbalance at either level (member-to-family or family-to-community) of family functioning or the achievement of a balance at both levels but at a price in terms of (a) deterioration in family integrity; (b) a curtailment or deterioration in the personal development of a member or the family unit's development; or (c) a loss or decline in family independence and autonomy.

Because family adaptation involves the management of often competing dimensions of family life such as member independence and family togetherness, it is likely to involve the element of compromise. Families are called upon to accept or tolerate a less than optimal situation in an effort to preserve family unity and to continue their investment in the development of members and the family unit. The concept of compromise allows social scientists to explain why why some families are able to

achieve satisfactory adaptation and maintain optimism in the face of prolonged, chronic, and unresolvable stressful situations. Successful forms of family adaptation, therefore, involve compromise that not only preserves the integrity of the family system but also permits the family unit and its members to continue on their developmental course, and maintain a position of self-determination.

At the present time, family adaptation is but a descriptive criterion of family post-crisis outcomes rather than a clearly defined and operationalized set of measures. One obvious and complicating factor is that any form of adaptation may be viewed as having both long and short run consequences. What may be functional in meeting a family's or a member's immediate needs, such as accepting a member who is abusing alcohol, may be maladaptive in light of the long range, adverse consequences on family stability and the psychological well-being of its members.

Initial Tests of the Double ABCX Model

If we were to apply this framework to the study of families faced with raising a handicapped child, we could argue that the pile up of family life changes interact with parental coping strategies to produce an outcome characterized by a balance or imbalance in family functioning.

One hypothesized paradigm based on the Double ABCX Model is that families characterized by a balance in family functioning (when compared with families who are imbalanced) would show (a) a higher level of family life changes (pile up) associated with family efforts to actively manage and accommodate change and keep the family in a balanced state ; and (b) a higher level of parental coping responses designed to keep the family unit together, acquire social support, and manage the stressor and related hardships. These factors interact over time as families work to achieve and maintain this balanced family situation.

The study (McCubbin & Larsen,1981) discussed here is the first in a series of studies designed to test hypotheses from the Double ABCX Model, as well as to refine the measurement tools used in stress and family coping research (McCubbin & Patterson, 1981). The principal objective of this study was to determine which independent variables or combination of variables best discriminate between balanced and imbalanced family units faced with the chronic strains of managing a child with cerebral palsy.

Research Method

Subjects were 217 families with a child with cerebral palsy (CP) who were seen at periodic intervals at the Gillette Children's Hospital CP Clinic, St. Paul, Minnesota. The Gillette Clinic is a regional program involving rural and urban families in the treatment of patients from a five state area: Minnesota, North Dakota, South Dakota, Wisconsin and Iowa. Families were sent questionnaires designed to obtain independent measures of family life changes and parental coping. Two weeks following receipt of the the initial data, families were sent a follow-up questionnaire designed to assess the criterion outcome of family functioning.

Measure of Pile-up. The Family Inventory of Life Events and Changes - FILE (McCubbin, Patterson, & Wilson, 1981) is a 71-item self-report instrument (completed by parents together) designed to measure a family's level of life stressors and strains experienced during a 12 month period. Since families are usually dealing with several life changes and strains simultaneously, FILE provides one index of changes and strains contributing to "pile-up." The 71 items are grouped into ten subscales (a) intra-family strains (b) marital strains (c) pregnancy and childbearing strains (d) finance and business strains (e) work-family transitions and strains (f) illness and family care strains (g) losses (h) transitions in and out (i) family legal violations and (j) total family life changes. The overall internal reliability (Chronbach Alpha) is .72.

Measure of Coping. The Coping Health Inventory for Parents - CHIP (McCubbin, McCubbin, Nevin & Cauble, 1979) is a 45 item questionnaire developed to record information about how parents individually perceive their overall response to the management of a handicapped child. The psychometric details of CHIP are presented elsewhere (McCubbin & Patterson, 1981). Briefly,three coping patterns are measured: (a) Maintaining Family Integration, Cooperation and Optimistic Definition of the Situation (Alpha, 79); (b) Maintaining Social Support, Self Esteem and Psychological Stability (Alpha, .79); and (c) Understanding the Medical Situation Through Communication with Other Parents and Consultation with Medical Staff (Alpha, .71).

Measure of member-to-family Adaptation. The Family Adaptability and Cohesion Evaluation Scales - FACES (Olson, Portner & Bell, 1978) was adopted for this investigation as a criterion measure of balance or imbalance in family functioning. This 111 item self-report questionnaire, completed by parents jointly, is designed to obtain family scores on the two major subscales of cohesion and adaptability. These scores were used to classify each family into one of sixteen types according to the family typology established by the Circumplex Model of Marital and Family Systems (Olson, Russell & Sprenkle, 1979; Olson Sprenkle & Russell, 1979). For the purposes of this investigation, we focused on those families with cohesion and adaptability scores which placed them in either of two mutually exclusive categories--balanced or imbalanced.

The balanced group (N=91) of families revealed moderate scores on both the cohesion and adaptability subscales. Families in this group may be characterized as operating at an optimum level (moderate) in promoting individual autonomy and strengthening the emotional bonds which members have toward one another. Additionally, these families are able to maintain an optimum (moderate) level in their ability to change their power structure, role relationships, and rules in response to stressful situations.

In contrast, the imbalanced group (N=61) of families included those families that revealed extreme scores on both the cohesion and adaptability subscales. In other words these families were characterized as being either chaotically disengaged, chaotially enmeshed, rigidly disengaged, or rigidly enmeshed.

Data Analysis

Bivariate group comparisions using tests for significant differences were made across all variables. Finally, a discriminant functional analysis was computed to determine which combination of variables best discriminated between the balanced and the imbalanced family groups. This multivariate statistical procedure is the most appropriate for small sample sizes and for a categorical dependent variable and allows for the relative contribution of each variable to the total discriminant function to be ascertained.

Results

McCubbin and Larsen (1981) found that of the 10 FILE subscales three discriminated between balanced and imbalanced family groups ($p \leq .05$). Family Financial and Business strains ($F=5.33, p=.02$), Family Illness Strains ($F=4.75, p=.03$), and the Total "Pile-up" of Family Life Changes ($F=5.63, p=.01$) were, as hypothesized, significantly higher for families in the balanced group. concomitantly, both mothers and fathers in the balanced group of families scored consistently higher on all three subscales of the parental coping inventory (CHIP). Mothers were significantly higher on Family Integration ($F=39.41, p=.0001$), Social Support ($F=25.74, p=.0001$) and Medical Consultation ($F=25.24, p=.0001$). Fathers were significantly higher on on Family Integration ($F=31.67, p=.0001$), Social support ($F=17.08, p=.0001$) and on Medical Consultation ($F=20.31, p=.0001$).

When these two groups were compared on sociodemographic characteristics (length of marriage, parents' age, education and family income, there were no statistically significant differences

Given this slice of the total research data we can render partial support to a multivariate and interactive approach to the study of differences between balanced and imbalanced family groups. However, these results do not indicate the specific contribution or the relative importance of each variable to the group differences obtained. We hypothesized based on the Double ABCX MODEL, that (a) not all of the variables would singularly differentiate the groups. (b) the variables would differ in terms of their relative contribution, and (c) the variables (demands--pile up) and capabilities--parental coping) in combination would be the best set of discriminators.

A discriminant analysis procedure was computed to ascertain which pile up and coping variables would most accurately and reliably discriminate between the groups. The results, as summarized in Table 1, showed that the classification accuracy of the discriminant function was 70 percent, and it was more accurate in classifying cases into the "balanced" group of families (76 percent) than into the imbalanced" family group (61 percent). It appears then, from these select results, that the most meaningful and useful discriminant function separating the two family groups should include pile-up and parental coping as separate but complementary variables.

TABLE 1

DISCRIMINANT FUNCTION FOR PREDICTIONS OF BALANCED AND IMBALANCED FAMILY GROUPS

VARIABLES	Unstandardized Discriminant Function	Standardized Discriminant Function
Mother's Coping		
Family Integration	-.23	-1.34
Social Support	-.54	1.04
Medical Consultation	-.59	.09
Father's Coping		
Family Integration	-.81	-.85
Social Support	-.66	-.04
Medical Consultation	-.65	.27
Pile-Up of Family Life Changes		
Financial & Business Strains	-.30	.15
Illness Strains	-.28	-.16
TOTAL Recent Family Life Changes	-.30	-.29

GROUPS:	CENTROIDS GROUP MEANS
BALANCED FAMILY GROUP	-.51
IMBALANCED FAMILY GROUP	.76

CLASSIFICATION ACCURACY

ACTUAL GROUP	N	PREDICTIONS: BALANCED	IMBALANCED	PERCENT CORRECT
BALANCED FAMILY GROUP	91	69	22	76 %
IMBALANCED FAMILY GROUP	61	24	37	61 %
		TOTAL PERCENT OF CASES CORRECT		70 %

Reference: McCubbin & Larsen 1981

Summary and Conclusions

The recent developments in family stress and coping research and the opportunity to reexamine data and observations of families in a war-induced crisis situation over time encouraged us to advance concepts and a few hypotheses regarding family adaptation to crisis situations. By building on Hill's(1949) family crisis framework, the Double ABCX Model of family pre- and post-crisis behavior attempts to identify those family variables which appear to explain the wide variablility in family post crisis outcomes. Specifically, this model advances the concepts of pile-up, family resources, perceptions, and coping as critical, if not vital, independent variables which interact to shape the course of family adjustment and adaptation. The principal objective of this paper was to introduce the basic concepts of the Double ABCX Model and to present observational and empirical data in an effort to render partial support for this line of reasoning and theory building. We propose that the relationship between a stressor and family outcomes, whether it be bonadaptation or maladaptation, should be conceptualized and measured as a complex phenomenon that includes the interaction of family life changes, perception, resources, and coping. From our vantage point we would argue that a productive direction for future research in this area should not focus on the simplistic design of stressor = family strain = maladaptative relationships. Rather, research efforts should be directed at measuring the relative contributions of defined stressors in interaction with other family system variables including family life changes, resources, perceptions, and coping patterns. Continued research on populations at risk for maladaptation (e.g., clinic groups, chronic stress groups) and suffering from a disproportionate exposure to stressors and their deleterious consequences (e.g., racism, war, poverty) would also seem to offer potential benefits in the elaboration of the Double ABCX Model of family stress. As we move forward with this line of research we can anticipate a greater number of concepts, propositions, hypotheses, and measures intended to improve upon our understanding of invulnerable and resilient families.

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